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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,119	04/24/2000	Dimitri Kanevsky	YOR000023US1	8968

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EXAMINER

GOODWIN, JEANNE M

ART UNIT PAPER NUMBER

2859

DATE MAILED: 12/03/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/557,119

Applicant(s)
Kanevsky et al.

Examiner
Jeanne-Marguerite Goodwin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Apr 24, 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.
2. The information disclosure statement filed May 19, 2000 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. Copies of the patents, publications or other information submitted has been placed in the application file, but the information referred to therein has not been considered. In this case, the applicant has failed to submit a copy of the 1449.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "104" has been used to designate both local computer and the local alarm program (LAP). Correction is required.

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4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sensors as stated in claim 1; the periods of slow wave sleep as stated in claim 2; the electroencephalography as stated in claim 4; polysomnography as stated in claim 5; the plurality of sensors in wireless communication with the local computer as stated in claim 6; and eyelid sensors as stated in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

5. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

6. The disclosure is objected to because of the following informalities:

- a. In the specification, page 4, line 1: "amy" should be --may-- for grammatical purposes.
- b. In the specification, pages 1-22: either user or sleeper should be used for consistency.
- c. In the specification, page 5, lines 10 and 12: "person" should be changed to either --user-- or --sleeper-- for consistency.

Appropriate correction is required.

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7. The abstract of the disclosure is objected to because it should include eyelid movement activity signals as well as the brain activity signals in order to better describe the claimed invention. Correction is required. See MPEP § 608.01(b).

8. The entire disclosure, i.e., specification, claims and abstract, should be revised carefully to correct any grammatical and idiomatic errors which may be present.

Claim Objections

9. Claims are objected to because of the following informalities:

- a. In claim 1, line 3: “a sleeper” should be --the sleeper-- for antecedent purposes.
- b. In claim 1, line 4: “heads” should be --head-- for antecedent purposes.
- c. In claim 1, line 4: “sensors” should be --sensor-- for antecedent purposes.
- d. In claim 1, line 8: “a” should be replaced --the-- before “sleeper” for antecedent purposes.
- e. In claim 8, line 4: “said information” lacks antecedent basis.
- f. In claim 9, line 3; claim 10, line 3; claim 11, line 3; claim 12, line 3: “said user’s wake up time” lacks antecedent basis.
- g. In claim 32, line 7: “said digitized sleep” lacks antecedent basis.
- h. In claim 32, line 10: “said designated wake up” lacks antecedent basis.
- I. In claim 23, line 5; and 33, line 7: “the time” lacks antecedent basis.

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j. In claims 12, 15 and 38-40: --,-- needs to be added before “wherein” for grammatical purposes.

k. In claim 12, line 4: “the next” lacks antecedent basis.

l. In claim 22, line 2: “said alarm time” lacks antecedent basis.

m. In claim 23, line 9: “the end” lacks antecedent basis.

n. In claim 27, line 2: “a” should be replaced by --the-- before “selected sleep activity period” for antecedent purposes.

o. In claim 27, line 4: “the labeled” lacks antecedent basis.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In claim 1, line 8: the phrase, “a user” is indefinite because it is not clear whether applicant is claiming another person in addition to the sleeper as stated in claim 1.

b. In claims 8-11: the phrase, “an alarm” is indefinite because it is not clear whether applicant is claiming another alarm in addition to the alarm as stated in claim 1.

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Appropriate correction is required.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3 and 6-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lidow in view of Verrier et al. [hereinafter Verrier].

Lidow discloses a sleep state inhibited wake-up alarm clock comprising at least one sleep activity sensor 10, 11 attachable to a head, wherein the output of the monitoring sensors 10, 11 can be connected to monitoring circuits by wires 15, 16 or can be coupled to a radio transmitter which will transmit the necessary signals (brain or REM) to a suitable receiving apparatus and a remotely triggered local wake-up alarm clock 31 sounding an alarm 30 to wake a sleeper. In another embodiment, Lidow discloses sensors 50 to 54 whose output is connected to respective amplifiers 55 to 59 and a data processor/sleep analyzer 60 which identifies periods of REM sleep comprising a receiving module, a signal analyzer charting sleep data and a signal labeler and a sender. The data processor/sleep analyzer 60 sends information about identified

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periods of a selected sleep to determine when to trigger the alarm relative to a wake-up time from the sleeper. Furthermore, the data processor receives analog signals representative of the sleep activity and provide digital sleep data to the sleep analyzer responsive to the analog signals. In a broad sense, the data processor has a readable program code thereon. Lidow discloses all the subject matter claimed by applicant with the exception of the limitation stated in claims 1 and 35, i.e., a local computer; the limitation stated in claims 2 and 40, i.e., the sleep analyzing server analyzes received brain activity signals and identifies periods of slow wave sleep; and the limitation stated in claims 3, 14 and 39, i.e., the sleep analyzing server analyzes received brain activity signals and identifies periods of non-REM sleep.

With respect to the local computer: Verrier discloses device using sensors 12, 14 which produce signals provided to a processor unit 18 which synchronizes, processes and record such signals and coupled to an external computer 21 so that data received and processed by processor 18 can be stored, manipulated and further analyzed within the external computer 21. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the external computer, as taught by Verrier, to the device of Lidow, in order to store, manipulate and further analyze the signals.

With respect to the sleep analyzing server analyzes received brain activity signals and identifies periods of slow wave sleep and non-REM sleep: Verrier discloses the use of brain

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activity signals in order to identify sleep states including slow wave sleep (SWS) state, rapid eye movement (REM) state and non-REM state. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the data processor/sleep analyzer, as taught by Lidow, to identify periods of slow wave sleep and non-REM sleep, *as taught by Verrier,* in order to identify all sleeping states.

With respect to claims 21-31: the method steps will be met during the normal *operation* ~~assembly~~ of the device stated above.

14. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lidow and Verrier as applied to claims 1-3 and 6-14 above, and further in view of Allen et al. [hereinafter Allen].

The combination of Lidow and Verrier discloses a device as stated above in paragraph 13. The combination of Lidow and Verrier discloses all the subject matter claimed by applicant with the exception of the limitation stated in claim 4, i.e., at least one sensor measures brain activity using electroencephalography; and the limitation stated in claim 5, i.e., at least one sensor measures brain activity using polysomnography.

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With respect to the at least one sensor measures brain activity using electroencephalography and polysomnography: Allen discloses monitoring brain wave activity through electroencephalography (EEG) and polysomnography in order to record for later analysis and study. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to ^{use} ~~add~~ the electroencephalography and polysomnography, ^{sensors} as taught by Allen, ⁱⁿ ~~to~~ the device of Lidow and Verrier, in order to record for later analysis and study.


Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 disclose related devices. JP363205592 disclose an alarm clock for outputting an alarm during a REM sleep period; DE19509478 discloses an automatic waking method for sleeping persons; JP40317591 discloses an alarm clock setting time to the time zone of REM sleep; JP404319692 discloses a REM detection type alarm clock; JP40317594 discloses a living body data feedback type alarm clock; Hobson et al. '219 and '067 discloses an eyelid detector system using a processor coupled to a computer; Koyama et al. discloses a system for discriminating sleep state; JP359023284 discloses an alarm clock having sleep monitor mechanism; Cohen discloses and interactive sleep evaluation; Pardey et al. discloses physiological monitoring system; Halyak discloses a user responsive sleep monitoring and awakening device; and Forbes discloses an analyzer with REM sleep detection.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jeanne-Marguerite Goodwin whose telephone number is (703) 305-0264. The examiner can normally be reached on Monday-Friday (9:00-6:00), alternate Fridays off. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JMG
November 19, 2001



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